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10/052,538	01/23/2002	Tetsunori Kaji	520.35237VX3	4015

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EXAMINER

CROWELL, ANNA M

ART UNIT	PAPER NUMBER
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1763

DATE MAILED: 05/20/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/052,538

Applicant(s)

KAJI ET AL.

Examiner

Michelle Crowell

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 25 February 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 42,43,46,47,50,51,53,55 and 56 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 42,43,46,47,50,51,53,55 and 56 is/are rejected.
- 7) ☒ Claim(s) 51 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 08/01 & 11/04
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Information Disclosure Statement

1. The information disclosure statement (IDS) submitted on August 2004 and November 2004 has been considered by the examiner.

Specification

2. The abstract of the disclosure submitted on January 23, 2002 is objected to because it should be a single paragraph and no more than 150 words or 15 lines. Currently, the abstract is two paragraphs and extends on two pages. Correction is required. See MPEP § 608.01(b).
3. Claim 51 is objected to because of the following informalities: In line 13 of claim 51, after "5 x 10¹¹ c", insert --m--. Appropriate correction is required.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

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5. Claims 42, 50, 51, and 55- 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Collins et al. (U.S. 5,300,460) in view of Ohmi (U.S. 5,272,417) and Lenz et al. (U.S. 5,609,720).

Referring to column 8, line 28-column 9, line 68, Collins et al. discloses a plasma processing apparatus comprising: a vacuum processing chamber (col. 7, lines 10-20), a pair of electrodes opposite to each other that are disposed in the vacuum processing chamber, one of the electrodes being used also as a sample table capable of holding a sample having a diameter of 127 mm containing an insulator (col. 7, lines 10-20, col. 8, line 44, col. 9, line 45), a gas introducing means capable of introducing a fluorine-containing etching gas into the vacuum processing chamber (col. 8, line 64, col. 9, line 15), a means for applying a high-frequency electric power of 50-600 MHz (col. 8, lines 28-34) between the pair of electrodes whose gap is set to 50-300 mm (col. 8, lines 35-43) and for setting a pressure inside the vacuum chamber to 0.267-26.66 Pa (col. 53-57) .

Collins et al. discloses a sample diameter of 127 mm; yet, fails to explicitly teach the diameter of the sample being 300 mm or more; however, it is still obvious.

Referring to column 2, lines 35-41, Lenz et al. teaches that it is conventionally known in the art to process a wafer having a diameter of 300 mm. Thus, it would have been obvious to scale up the apparatus of Ohmi to process a wafer having a diameter of 300 mm since it is conventionally known in the art to process wafers having a diameter of 300 mm. Additionally, according to *In Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984), the Federal Circuit held that, where the only difference between the prior art and the claims was a recitation of relative dimensions of the

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claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to scale up/down the apparatus of Ohmi in order to process a sample with a diameter of 300 mm or more.

Collins et al. fails to disclose a bias electric power source.

Referring to Figure 1 and column 6, lines 62-68, Ohmi teaches a bias electric power source 110 connected to sample table 104 for generating a bias voltage. It is conventionally known in the art bias the sample table since this would change the energy of the ions reaching the sample surface in order to control the selectivity ratio. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the apparatus of Collins et al. with a bias electric power connected to the sample table since this would change the energy of the ions reaching the sample surface in order to control the selectivity ratio.

With respect to the plasma density, Collins et al. discloses a high frequency electric power source of 50-600 MHz, an electrode spacing of 50-300 mm, and a pressure of 0.267-26.66 Pa. It is known in the art to appropriately select the chamber conditions in order to generate high density plasma. Thus, since Collins et al. disclose the claimed power source, electrode spacing, and pressure ranges, it is inherent that the resulting plasma density generated in Collins in view of Ohmi et al. and Lenz et al. will fall between the range of $5 \times 10^{10} \text{ cm}^{-3}$ to $5 \times 10^{11} \text{ cm}^{-3}$.

Regarding the limitation of "fluorine-containing etching gas", the type of gas used in apparatus claims is considered intended use and therefore is of no significance in determining

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patentability. Expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim. *Ex parte Thibault*, 164 USPQ 666, 667 (Bd. App. 1969). Furthermore, the apparatus of Ohmi is capable of providing a fluorine containing etching gas to the sample.

Regarding the limitation of “an insulator film in the sample”, this is considered intended use and therefore is of no significance in determining patentability. The inclusion of material or article worked upon by a structure being claimed does not impart patentability to the claims.” In *re Young*, 75 F.2d 966, 25 USPQ 69 (CCPA 1935) (as restated in *In re Otto*, 312 F.2d 937, 136 USPQ 458, 459 (CCPA 1963). Moreover, the apparatus of Collins et al. is capable of processing an insulator film in the sample.

With respect to claim 42, Collins et al. fails to teach a decreasing means comprising an electrode cover comprising a material containing Si or C.

Referring to column 6, lines 33-43, Ohmi teaches a decreasing means comprising an electrode cover 101 comprising a material containing Si or C on the other of the pair of plate electrodes to react with fluorine. The electrode cover 101 prevents etching of the electrode 102. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide one of the electrodes of Collins et al. with the decreasing means comprising an electrode cover as taught by Ohmi in order to prevent etching of the electrode.

With respect to claims 55, Collins et al. discloses a gap set at 50-300 mm, thus the apparatus of Collins et al. in view of Ohmi and Lenz et al. is capable of utilizing surface reaction between the pair of electrodes effectively to decrease the amount of fluorine in the plasma near the sample.

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Regarding the above apparatus claims, it should be noted that a claim containing a “recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus” if the prior art apparatus teaches all the structural limitations of the claim. *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987).

6. Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over Collins et al. (U.S. 5,300,460) in view of Ohmi (U.S. 5,272,417) and Lenz et al. (U.S. 5,609,720) as applied to claims 42, 50-51, and 55- 56 above, and further in view of Sakamoto et al. (U.S. 5,698,062).

The teachings of Collins et al. in view of Ohmi in view of Lenz et al. have been discussed above.

Collins et al. in view of Ohmi in view of Lenz et al. fails to teach a gas diffusion plate.

Referring to column 5, lines 21-35, Sakamoto et al. teaches a plasma processing apparatus wherein the gas introducing means 26, 21 has a gas diffusion plate 24. It is well known in the art for the upper electrode to include a gas introducing means having a gas diffusion plate in order to uniformly distribute process gases. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the upper electrode of Collins et al. in view of Ohmi and Lenz et al. with a gas introducing means having a gas diffusion plate as taught by Sakamoto et al. in order to uniformly distribute process gases.

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7. Claim 46 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Collins et al. (U.S. 5,300,460) in view of Ohmi (U.S. 5,272,417) and Lenz et al. (U.S. 5,609,720) as applied to claims 42, 50-51, and 55- 56 above, and further in view of Ishii (U.S. 5,529,657).

The teachings of Collins et al. in view of Ohmi in view of Lenz et al. have been discussed above.

Collins et al. in view of Ohmi in view of Lenz et al. fails to teach a susceptor cover.

Referring to Figures 3-6 and column 4, line 49 – column 5, line 12, Ishii teaches a plasma processing apparatus comprising a susceptible cover 6 comprised of carbon or silicon located adjacent to one of the pair of electrodes 31 (col. 4, lines 50-54, col. 5, lines 9-12). The susceptor cover 6 has a thickness of 2 mm (col. 4, lines 63-65). The susceptor cover directs the plasma to the surface of the wafer. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide one of the pair of electrodes of Collins et al. in view of Ohmi and Lenz et al. with the susceptor cover as taught by Ishii in order to direct the plasma to the surface of the wafer.

8. Claim 53 is rejected under 35 U.S.C. 103(a) as being unpatentable over Collins et al. (U.S. 5,300,460) in view of Ohmi (U.S. 5,272,417) and Lenz et al. (U.S. 5,609,720) as applied to claims 42, 50-51, and 55- 56 above, and further in view of Sakamoto et al. (U.S. 5,698,062).

The teachings Collins et al. in view of Ohmi in view of Lenz et al. have been discussed above.

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Collins et al. in view of Ohmi in view of Lenz et al. fails to teach one of the electrodes having an electrostatic attracting film with a heat transfer gas being supplied between the film and the sample surface.

Referring to Figure 1 and column 5, lines 3-13, Sakamoto et al. teaches a plasma processing apparatus wherein one of the electrodes has an electrostatic attracting film 11 with a heat transfer gas 14 being supplied between the film and the sample surface W in order to secure the sample to the electrode during processing. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide one of the electrodes of Collins et al. in view of Ohmi and Lenz et al. with an electrostatic attracting film with a heat transfer gas being supplied between the film and the sample surface as taught by Sakamoto et al. in order to effectively secure the sample to the electrode during processing.

Second Art Rejection

9. Claims 42, 50-51, 55, and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohmi (U.S. 5,272,417) in view of Collins et al. and Lenz et al. (U.S. 5,609,720).

Referring to Figure 1, column 6, line 25-column 7, line 6, and column 8, line 61-68, Ohmi discloses a plasma processing apparatus comprising: a vacuum processing chamber 105 (col. 6, lines 27-28), a pair of electrodes 102, 104 opposite to each other that are disposed in the vacuum processing chamber, one of the electrodes 104 being used also as a sample table capable of holding a sample having a diameter of 254 mm containing an insulator film (col. 6, lines 25-27, col. 12, lines 12-15, col. 15, lines 64-68), a gas introducing means capable of introducing a fluorine-containing etching gas into the vacuum processing chamber (col. 6, lines 30-31, col. 8,

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lines 65-66), means for applying a high frequency electric power of 100 MHz –250 MHz is applied between the pair of electrodes (col. 8, lines 23-27, col. 4, lines 31-33) whose gap is set to 30 mm (col. 8, line 24) and for setting a pressure inside the vacuum processing chamber to 0.933 Pa (col. 8, line 25), bias electric power source 110 connected to the one electrode 104 (col. 6, lines 62-68).

Ohmi fails to specifically teach a motivation for the processing parameters and a pressure range of 1.0 to 4.0 Pa.

Referring to column 8, lines 28-57, Collins et al. additionally teaches a means for applying a high-frequency electric power of 50-600 MHz (col. 8, lines 28-34) between the pair of electrodes whose gap is set to 50-300 mm (col. 8, lines 35-43) and for setting a pressure inside the vacuum chamber to 0.267-26.66 Pa (col. 53-57) so that anisotropic etch will occur at the desired etch rate. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to operate the apparatus of Ohmi with the process parameters and specifically the pressure range of Collins et al. so that anisotropic etch will occur at the desired etch rate.

Ohmi discloses a sample diameter of 254 mm; yet, fails to explicitly teach the diameter of the sample being 300 mm or more; however, it is still obvious.

Referring to column 2, lines 35-41, Lenz et al. teaches that it is conventionally known in the art to process a wafer having a diameter of 300 mm. Thus, it would have been obvious to scale up the apparatus of Ohmi to process a wafer having a diameter of 300 mm since it is conventionally known in the art to process wafers having a diameter of 300 mm. Additionally, according to *In Gardner v. TEC Systems, Inc.*, 725 F.2d 1338, 220 USPQ 777 (Fed. Cir. 1984), cert. denied, 469 U.S. 830, 225 USPQ 232 (1984), the Federal Circuit held that, where the only

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difference between the prior art and the claims was a recitation of relative dimensions of the claimed device and a device having the claimed relative dimensions would not perform differently than the prior art device, the claimed device was not patentably distinct from the prior art device. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to scale up/down the apparatus of Ohmi in order to process a sample with a diameter of 300 mm or more.

With respect to the plasma density, Ohmi et al. and Collins et al. discloses a high frequency electric power source of 10-250 MHz, an electrode spacing of 30 mm, and a pressure of 0.267-26.66 Pa. It is inherently known in the art the high density plasma is generated from the appropriate chamber conditions. Thus, since Ohmi et al. and Collins et al. disclose the claimed power source, electrode spacing, and pressure ranges, it is inherent that the resulting plasma density generated in Ohmi in view of Collins et al. and Lenz et al. will fall between the range of $5 \times 10^{10} \text{ cm}^{-3}$ to $5 \times 10^{11} \text{ cm}^{-3}$.

Regarding the limitation of "fluorine-containing etching gas", the type of gas used in apparatus claims is considered intended use and therefore is of no significance in determining patentability. Expressions relating the apparatus to contents thereof during an intended operation are of no significance in determining patentability of the apparatus claim. Ex parte Thibault, 164 USPQ 666, 667 (Bd. App. 1969). Furthermore, the apparatus of Ohmi is capable of providing a fluorine containing etching gas to the sample.

Regarding the limitation of "a pressure condition of 0.5 Pa to 4.0 Pa", this is considered intended use and therefore is of no significance in determining patentability. The apparatus of Ohmi is capable of providing a pressure condition of 0.5 Pa to 4.0 Pa.

Regarding the limitation of “an insulator film in the sample”, this is considered intended use and therefore is of no significance in determining patentability. The inclusion of material or article worked upon by a structure being claimed does not impart patentability to the claims.” In *re Young*, 75 F.2d 966, 25 USPQ 69 (CCPA 1935) (as restated in *In re Otto*, 312 F.2d 937, 136 USPQ 458, 459 (CCPA 1963). Moreover, the apparatus of Ohmi is capable of processing an insulator film in the sample.

With respect to claim 42, Ohmi discloses a means for decreasing the amount of fluorine in the plasma to decrease the amount of fluorine near the sample, the decreasing means comprising an electrode cover 101 comprising a material containing Si or C on the other of the pair of plate electrodes (col. 6, lines 33-43) to react with fluorine and setting a gap between the plate electrodes is set to 30 mm (col. 8, line 24).

With respect to claim 50, Ohmi discloses a plasma processing apparatus further including a bias electric power source 110 connected to the one electrode 104 used as a sample table for applying a bias voltage to the sample (col. 6, lines 62-68).

With respect to claim 55, Ohmi discloses a gap set at 30 mm, thus the apparatus of Ohmi is capable of utilizing surface reaction between the pair of electrodes effectively to decrease the amount of fluorine in the plasma near the sample.

Regarding the above apparatus claims, it should be noted that a claim containing a “recitation with respect to the manner in which a claimed apparatus is intended to be employed does not differentiate the claimed apparatus from a prior art apparatus” if the prior art apparatus teaches all the structural limitations of the claim. *Ex parte Masham*, 2 USPQ2d 1647 (Bd. Pat. App. & Inter. 1987).

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5. Claim 43 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ohmi (U.S. 5,272,417) in view of Collins et al. and Lenz et al. (U.S. 5,609,720) as applied to claims 42, 50-51, 55, and 56 above, and further in view of Sakamoto et al. (U.S. 5,698,062).

The teachings of Ohmi in view of Collins et al. and Lenz et al. have been discussed above.

Ohmi in view of Collins et al. and Lenz et al. fails to teach a gas diffusion plate.

Referring to column 5, lines 21-35, Sakamoto et al. teaches a plasma processing apparatus wherein the gas introducing means 26, 21 has a gas diffusion plate 24. It is well known in the art for the upper electrode to include a gas introducing means having a gas diffusion plate in order to uniformly distribute process gases. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide the upper electrode of Ohmi in view of Collins et al. and Lenz et al. with a gas introducing means having a gas diffusion plate as taught by Sakamoto et al. in order to uniformly distribute process gases.

6. Claim 46 and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohmi (U.S. 5,272,417) in view of Collins et al. and Lenz et al. (U.S. 5,609,720) as applied to claims 42, 50-51, 55, and 56 above, and further in view of Ishii (U.S. 5,529,657).

The teachings of Ohmi in view of Collins et al. and Lenz et al. have been discussed above.

Ohmi in view of Collins et al. and Lenz et al. fails to teach a susceptor cover.

Referring to Figures 3-6 and column 4, line 49 – column 5, line 12, Ishii teaches a plasma

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processing apparatus comprising a susceptible cover 6 comprised of carbon or silicon located adjacent to one of the pair of electrodes 31 (col. 4, lines 50-54, col. 5, lines 9-12). The susceptor cover 6 has a thickness of 2 mm (col. 4, lines 63-65). The susceptor cover directs the plasma to the surface of the wafer. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide one of the pair of electrodes of Ohmi in view of Lenz et al. with the susceptor cover as taught by Ishii in order to direct the plasma to the surface of the wafer.

7. Claim 53 is rejected under 35 U.S.C. 103(a) as being unpatentable over Ohmi (U.S. 5,272,417) in view of Collins et al. and Lenz et al. (U.S. 5,609,720) as applied to claims 42, 50-51, 55, and 56 above, and further in view of Sakamoto et al. (U.S. 5,698,062).

The teachings of Ohmi in view of Collins et al. and Lenz et al. have been discussed above.

Ohmi in view of Collins et al. and Lenz et al. fails to teach one of the electrodes having an electrostatic attracting film with a heat transfer gas being supplied between the film and the sample surface.

Referring to Figure 1 and column 5, lines 3-13, Sakamoto et al. teaches a plasma processing apparatus wherein one of the electrodes has an electrostatic attracting film 11 with a heat transfer gas 14 being supplied between the film and the sample surface W in order to secure the sample to the electrode during processing. Thus, it would have been obvious to one of ordinary skill in the art at the time of the invention to provide one of the electrodes of Ohmi in view of Collins et al. and Lenz et al. with an electrostatic attracting film with a heat transfer gas

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being supplied between the film and the sample surface as taught by Sakamoto et al. in order to effectively secure the sample to the electrode during processing.

Response to Arguments

6. Applicant's arguments with respect to claims 42-43, 46-47, 50-51, 53, and 55-56 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a).

Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michelle Crowell whose telephone number is (571) 272-1432. The examiner can normally be reached on M-F (9:30 -6:00).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Parviz Hassanzadeh can be reached on (571) 272-1435. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

AMC *AME*
05-10-05

P.L.
PARVIZ HASSANZADEH
SUPERVISORY PATENT EXAMINER